REMARKS/ARGUMENT

No claims are currently amended. Claims 99-158 remain pending, of which claims 99-136 and 152-158 are under consideration.

Reconsideration and removal of the rejections are respectfully requested in view of the remarks presented below.

Claim 115

Although claim 115 is listed among the rejected claims in the Office Action Summary (PTOL-326), Applicant finds no ground for rejection in the "Detailed Action" section. Accordingly, Applicant submits that claim 115 is patentably allowable.

Rejection under 35 U.S.C. §103

I. Rejections over Kent and Ghasripoor

Claims 151-156 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 3,315,350 ("Kent") in view of U.S. Patent 5,997,248 ("Ghasripoor"). Applicant respectfully traverses.

Claim 151

As the primary reference, the Office cites Kent, which merely teaches a copper soldering iron tip (10) that is electroplated with an inner layer of iron, nickel, cobalt, or combinations thereof (col. 2:18-23). A corrosion resistant outer layer of chromium and/or nickel is then electroplated over the inner layer (col. 2:31-39). See Kent's FIG. 2, reproduced to the right for convenience. Kent provides that "where an inner layer of iron is used with outer layers of nickel and chromium … of the total material deposited on the surface of the shank of the soldering tip, approximately 75% by weight is iron..." (col. 2:46-52). As best understood, the Examiner appears to assert that Kent's inner and outer layers together correspond to the "member" recited in the claim 151.

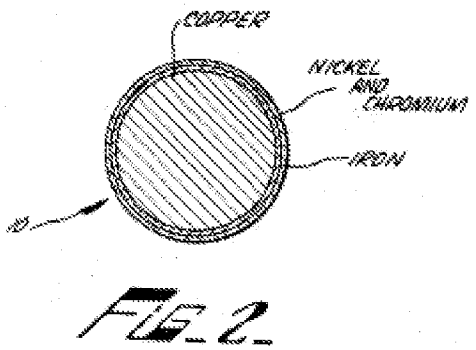

FIG. 2

As an initial matter, Applicant points out that Kent indicates that the outer layer of chromium and/or nickel is necessary to provide corrosion resistance (col. 2:36) and oxidation resistance (col. 2:60 and col. 3:7-10). Therefore, there is no teaching or suggestion in Kent of a member having an iron content near 99.99%.

The Office points to Kent's disclosure that "of the total material deposited on the surface of the shank of the soldering tip, approximately 75% by weight is iron" (col. 2:50-54). The Office acknowledges that "Kent fails to teach forming oxidation protective layer from sintered particles," but asserts that Ghasripoor "teaches forming an oxidation protective layer on a blade tip by a method including: … sintering." The Office concludes that it would have been obvious "to modify the invention of Kent to form the oxidation protection layer by sintering as taught by Ghasripoor et al., which would have been meant a mere [sic: met by merely] substituting one process variant for the other."

Modifying Kent's process as proposed by the Office would result an inner layer of iron particles covered by an outer layer of non-iron material, the iron particles being 75% by weight of all the materials. Such a result does not meet claim 151. First, it is important to understand the relationship between a sintering base material and the metal particle sintered member. A person of ordinary skill reading the specification would understand that the base material is distributed in the metal particle sintered member and is not confined to an inner layer or portion of the metal particle sintered member (see, for example, para. 264 of 2004/0226982 which describes a sintering base material being mixed). Therefore, when the sintering base material includes only iron, for example, the iron is between 60% and 99.99% by weight in the metal particle sintered member, but the iron is not confined to an inner layer or portion of the metal particle sintered member. In contrast, by modifying Kent as proposed by the Office, iron particles which form 75% of all materials in Kent's inner and outer layers are confined to the inner layer. The Office has not articulated how iron that is 75% by weight and confined to an inner layer, as taught by Kent, corresponds to iron that is between 60% and 99.99% by weight and not confined to an inner layer. Accordingly, Applicant submits that the Office has not met its initial burden of establishing prima facie obviousness.

The Office's reason for combining Ghasripoor with Kent is also faulty. The Office asserts that Ghasripoor teaches forming an oxidation protection layer by sintering and, so a person of ordinary skill in the art would be motivated to substitute Kent's electroplated oxidation protection layer with Ghasripoor's sintered oxidation protection layer to arrive at the claimed invention. In fact, Ghasrippor does not teach forming an oxidation protection layer by sintering. Ghasripoor only mentions sintering as a way to make a granular composition of an abrasive layer (28) on turbine blade tips (26) (col. 3:33-35). When the turbine rotates, the abrasive layer (28) abrades a coating (24) on a shroud (20) that surrounds the turbine blades (14, 16) (col. 3:8-12). The abrasive layer (28) is not for oxidation protection, but is for creating a "self-adjusting, relatively tight seal" (col. 1:20-23) between the blades and the shroud. Ghasripoor mentions coating the blades or blade tips with a layer of MCrAlY alloy for oxidation protection (col. 3:18-20), but does not indicate that such a layer can or should be made by sintering. Ghasripor mentions sintering only in the context of making the abrasive layer on a rotating turbine blade. Therefore, a person of ordinary skill reading Ghasripoor would not follow the path of applying a sintering process for making Taylor's oxidation protection layer.

Applicant notes that "[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious." *KSR v. Teleflex*, 127 S.Ct. 1727, 1740 (2007). "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, . . . or would be led in a direction divergent from the path that was taken by the applicant . . . if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994).

Taylor and Ghasripoor teach away from using a sintering process for Taylor's inner layer of iron. As previously indicated, Ghasripoor's sintering process is specifically intended to produce an abrasive surface which is granular or irregular in nature. Taylor states that the outer layer of chromium does not deposit well "in recesses of an irregular surface" (col. 2, line 70 to col. 3, line 1). Even when the inner layer is electroplated, grinding is necessary to smooth out irregularities of the inner layer (col. 3, lines 4-10). Therefore, a person of ordinary skill reading

Taylor would be discouraged from substituting the electroplating process with a process specifically intended to produce an irregular surface, such as the sintering process taught by Ghasripoor, because it would very likely require more grinding than usual to sufficiently smooth out irregularities.

Applicant submits that the rejection of claim 151 is improper for yet another reason. In essence, the Office asserts that Kent's disclosure that "of the total material deposited on the surface of the shank of the soldering tip, approximately 75% by weight is iron" meets the claimed element of "the weight content of the sintering base material in the metal particle sintered member is between 60% and 99.99% by weight," but for the aspects related to sintered particles. Next, the Office asserts that sintered particles are obvious in view of Ghasripoor. The Office's analysis is fundamentally improper since court's have held that "[i]n determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious" (MPEP §2141.02 (emphasis in original), citing *Stratoflex v. Aeroquip*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983). The Office must consider as a whole all the words of the claimed element: "the weight content of the sintering base material in the metal particle sintered member is between 60% and 99.99% by weight." This is because the words "between 60% and 99.99% by weight" are defined by the words "weight content of the sintering base material in the metal particle sintered member." The Office has improperly disconnected these words in claim 151 by separately pointing to "75%" in Kent and "sintering" in Ghasripoor.

For the above reasons, Applicant respectfully submits that claim 151 is patentably allowable over Kent in view of Ghasripoor.

Claims 152-156

Claims 152 and 156 depend from claim 151 and, thereby, include every element of claim 151. Applicant submits that claims 152 and 156 are patentably allowable over Kent in view of Ghasripoor for at least the same reasons given for claim 151.

II. Rejections over Kent, Ghasripoor and Weller

Claims 99, 111-114, 116, 117, 133, 135 and 136 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Ghasripoor as applied to claim 151 and further in view of U.S. Pat. No. 5,553,767 ("Weller").

Claims 99, 111-114, 116, 117, 133, 135 and 136 depend from claim 151, which is patentably allowable over Kent in view of Ghasripoor as indicated above. Weller fails to cure the deficiencies of Kent and Ghasripoor. For example, Weller fails to teach, suggest, or otherwise render obvious the element of "forming a metal particle sintered member from a sintering base material, wherein the weight content of the sintering base material in the metal particle sintered member is between 60% and 99.99% by weight," as recited in claim 151. Therefore, claim 151 is patentably allowable over Kent in view of Ghasripoor and Weller. Claims 99, 111-114, 116, 117, 133, 135 and 165 are patentably allowable over Kent in view of Ghasripoor and Weller for at least the same reason since they include every element of claim 151.

III. Rejections over Kent, Ghasripoor, Weller, and Nippert

Claims 105 and 119-124 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Ghasripoor as applied to claim 151 and further in view of Weller and U.S. Pat. No. 4,345,136 ("Nippert").

Claims 105 and 119-124 depend from claim 151, which is patentably allowable over Kent in view of Ghasripoor and Weller, as indicated above. Nippert fails to cure the deficiencies of Kent, Ghasripoor, and Weller. For example, Nippert fails to teach, suggest, or otherwise render obvious the element of "forming a metal particle sintered member from a sintering base material, wherein the weight content of the sintering base material in the metal particle sintered member is between 60% and 99.99% by weight," as recited in claim 151. Therefore, claim 151 is patentably allowable over Kent in view of Ghasripoor, Weller, and Nippert. Claims 105 and 119-124 are patentably allowable over Kent in view of Ghasripoor, Weller, and Nippert for at least the same reason since they include every element of claim 151.

IV. Rejections over Kent, Ghasripoor, Weller, Nippert and Steine

Claims 103, 104, 107-110, and 125-134 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Ghasripoor as applied to claim 151 and further in view of Weller, Nippert and U.S. Pat. No. 4,052,531 ("Steine").

Claims 103, 104, 107-110, and 125-134 depend from claim 151, which is patentably allowable over Kent in view of Ghasripoor, Weller and Nippert, as indicated above. Steine fails to cure the deficiencies of Kent, Ghasripoor, Weller and Nippert. For example, Steine fails to teach, suggest, or otherwise render obvious the element of "forming a metal particle sintered member from a sintering base material, wherein the weight content of the sintering base material in the metal particle sintered member is between 60% and 99.99% by weight," as recited in claim 151. Therefore, claim 151 is patentably allowable over Kent in view of Ghasripoor, Weller, Nippert and Steine. Claims 105 and 119-124 are patentably allowable over Kent in view of Ghasripoor, Weller, Nippert and Steine for at least the same reason since they include every element of claim 151.

V. Rejections over Kent, Ghasripoor, Weller, Nippert and Pietrocini

Claim 106 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Ghasripoor as applied to claim 151 and further in view of Weller, Nippert and U.S. Pat. No. 3,894,678 ("Pietrocini").

Claim 106 depends from claim 151, which is patentably allowable over Kent in view of Ghasripoor, Weller and Nippert, as indicated above. Pietrocini fails to cure the deficiencies of Kent, Ghasripoor, Weller and Nippert. For example, Pietrocini fails to teach, suggest, or otherwise render obvious the element of "forming a metal particle sintered member from a sintering base material, wherein the weight content of the sintering base material in the metal particle sintered member is between 60% and 99.99% by weight," as recited in claim 151. Therefore, claim 151 is patentably allowable over Kent in view of Ghasripoor, Weller, Nippert and Pietrocini. Claim 106 is patentably allowable over Kent in view of Ghasripoor, Weller, Nippert and Pietrocini for at least the same reason since it includes every element of claim 151.

VI. Rejections over Kent, Ghasripoor, Weller and Davis

Claims 100, 102, 157, and 158 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Ghasripoor as applied to claim 151 and further in view of Weller and U.S. Pat. No. 4,995,921 ("Davis").

Claims 100, 102, 157, and 158 depend from claim 151, which is patentably allowable over Kent in view of Ghasripoor and Weller, as indicated above. Davis fails to cure the deficiencies of Kent, Ghasripoor and Weller. For example, Davis fails to teach, suggest, or otherwise render obvious the element of "forming a metal particle sintered member from a sintering base material, wherein the weight content of the sintering base material in the metal particle sintered member is between 60% and 99.99% by weight," as recited in claim 151. Therefore, claim 151 is patentably allowable over Kent in view of Ghasripoor, Weller and Davis. Claims 100, 102, 157, and 158 are patentably allowable over Kent in view of Ghasripoor, Weller and Davis for at least the same reason since they include every element of claim 151.

VII. Rejections over Kent, Ghasripoor, Weller and Rhoads

Claims 101 and 118 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kent in view of Ghasripoor as applied to claim 151 and further in view of Weller and U.S. Pat. No. 3,006,069 ("Rhoads").

Claims 101 and 118 depend from claim 151, which is patentably allowable over Kent in view of Ghasripoor and Weller, as indicated above. Rhoads fails to cure the deficiencies of Kent, Ghasripoor and Weller. For example, Rhoads fails to teach, suggest, or otherwise render obvious the element of "forming a metal particle sintered member from a sintering base material, wherein the weight content of the sintering base material in the metal particle sintered member is between 60% and 99.99% by weight," as recited in claim 151. Therefore, claim 151 is patentably allowable over Kent in view of Ghasripoor, Weller and Rhoads. Claims 101 and 118 are patentably allowable over Kent in view of Ghasripoor, Weller and Rhoads for at least the same reason since they include every element of claim 151.

Conclusion

In light of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and early passage of this case to issue is respectfully requested. If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 07-1850.

Respectfully submitted,

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